

## ABSTRACT

A photo-catalyst containing titanium fluoride nitride comprising,  $Ti(IV)O_aNbF_c$  or a compound represented by  $MeTi(IV)O_aNbF_c$  prepared by doping at least one metal Me selected from the group consisting of alkali or alkaline earth metals on  $Ti(IV)O_aNbF_c$ . (wherein, b is 0.1 to 1, c is 0.1 to 1 and a is a value to maintain  $Ti(IV)$  and is decided in relation to b and c.). The photo-catalyst containing titanium fluoride nitride is especially characterized by loading at least one promoter selected from the group consisting of Pt, Ni and Pd.